ABSTRACT

A tire and wheel assembly permits hand-mounting of the tire on the wheel by specifying the relationship of the tire bead circumference and the wheel geometry so that:

$$C_{i} = 0.5C_{w} + 2\sqrt{0.5D_{w}^{2} + (0.5D_{w} + G + H)^{2} + (W + Y)^{2}} + M$$

where, C_t is the circumference of the tire bead seat, C_w is the circumference of the wheel well, G is the depth of the wheel well, G is the depth of the wheel well, G is the depth of the wheel well from the mounting side flange, G is the radial height of the rim flange, and G is the axial width of the rim flange, and G meresents an amount of additional length, preferably about 80 millimeters.